CONTENTS

(Abstracts/Contents Lists published in Analytical Abstracts, ASCA, Biochemical Abstracts, Biological Abstracts, Chemical Abstracts, Chemical Titles, Chromatography Abstracts, Current Contents/Physical, Chemical & Earth Sciences, Current Contents/Life Sciences, Deep-Sea Research/Part B: Oceanographic Literature Review, Excerpta Medica, Index Medicus, Mass Spectrometry Bulletin, PASCAL-CNRS, Referativnyi Zhurnal and Science Citation Index)

Obituary: Roland W. Frei (1936–1989)
by U. A. Th. Brinkman and N. H. Velthorst V

Flat-bed chromatography on impregnated layers (Review)
by G. Grassini-Strazza, V. Carunchio and A. M. Girelli (Rome, Italy) (Received November 29th, 1988) 1

Application of liquid crystals in chromatography (Review)
by Z. Witkiewicz (Warsaw, Poland) (Received December 9th, 1988) 37

Biogenic amines and their metabolites in body fluids of normal, psychiatric and neurological subjects (Review)
by B. A. Davis (Saskatoon, Canada) (Received December 14th, 1988) 89

Nature of temperature gradients in capillary zone electrophoresis
by A. E. Jones and E. Grushka (Wilmington, DE, U.S.A.) (Received September 5th, 1988) 219

Effect of the central ion of octahedral transition metal complexes on their thin-layer chromatographic R_F values
by G. Vučković and N. Juranić (Beograd, Yugoslavia), D. J. Radanović (Kragujevac, Yugoslavia) and M. B. Ćelap (Beograd, Yugoslavia) (Received November 21st, 1988) 227

Chemical changes of organic compounds in chlorinated water. XVI. Gas chromatographic–mass spectrometric studies of reactions of tricyclic aromatic hydrocarbons with hypochlorite in dilute aqueous solution
by S. Onodera, K. Igarashi, A. Fukuda, J. Ouchi and S. Suzuki (Tokyo, Japan) (Received December 13th, 1988) 233

Pentafluorobenzoic anhydride as a derivatizing agent for alcohols and hydroxy fatty acid methyl esters detected by electron capture in gas chromatography
by D. V. Crabtree, A. J. Adler and G. J. Handelman (Boston, MA, U.S.A.) (Received December 12th, 1988) 251

Determination of benzenes and naphthalenes in water by purge and trap isolation and capillary column chromatography
by T. N. Barnung and O. Grahl-Nielsen (Bergen, Norway) (Received December 13th, 1988) 271

Authentication of cocoa in Maya vessels using high-performance liquid chromatographic techniques
by W. J. Hurst, R. A. Martin, Jr. and S. M. Tarka, Jr. (Hershey, PA, U.S.A.) and G. D. Hall (Cambridge, MA, U.S.A.) (Received January 16th, 1989) 279

Anion–cation separations on a mixed bed alumina–silica column
by D. M. Brown and D. J. Pietrzyk (Iowa City, IA, U.S.A.) (Received December 16th, 1988) 291

Characterization of oakmoss products used in perfumery by high-performance liquid chromatography
by H. Schulz and G. Albroscheit (Holzminden, F.R.G.) (Received December 6th, 1988) 301

Gas chromatographic determination of nicotinamide in meats and meat products as 3-cyanopyridine
by A. Tanaka, M. Iijima, Y. Kikuchi, Y. Hoshino and N. Nose (Saitama, Japan) (Received December 13th, 1988) 307

(Continued overleaf)

Affinity chromatography of bovine heart lactate dehydrogenase using dye ligands linked directly or spacer-mediated to bead cellulose
by M. Naumann, R. Reuter, P. Metz and G. Kopperschläger (Leipzig, G.D.R.) (Received October 25th, 1988) 319

High-performance liquid chromatographic separation of variants of chromosomal proteins from prokaryotes
by F. Chartier, G. Crevel, B. Laine and P. Sautiere (Lille, France) (Received December 13th, 1988) 331

Separation and molecular weight determination of prostaglandin B_1 oligomers by size-exclusion chromatography
by I. Martin and Ü. Lille (Tallinn, U.S.S.R.) (Received October 1st, 1988) 339

Pyrolysis gas–liquid chromatography of N,N-dimethylalkylamine N-oxides and their mixtures
by F. Devínsky (Bratislava, Czechoslovakia) and J. W. Gorrod (London, U.K.) (Received December 6th, 1988) 347

Determination of trace anionic impurities in concentrated inorganic acids by recycle ion chromatography
by M. Murayama, M. Suzuki and S. Takitani (Tokyo, Japan) (Received November 21st, 1988) 355

Notes

Chemometric approach to explain the liquid chromatographic retention of some chiral indoles on swollen microcrystalline triacetylcellulose
by P. Erlandsson and R. Isaksson (Lund, Sweden), I. Nilsson (Mölndal, Sweden) and S. Wold (Umeå, Sweden) (Received December 8th, 1988) 364

Cluster analysis in the comparison of two-dimensional chromatograms
by D. Heimler and V. Boddi (Florence, Italy) (Received December 5th, 1988) 371

Separation and determination of organoarsenic compounds with a microbore column and ultraviolet detection
by M. Maruo, N. Hirayama, H. Wada and T. Kuwamoto (Kyoto, Japan) (Received December 21st, 1988) 379

Programmable temperature vaporizer applications in an high-resolution gas chromatographic method for the quantitation of impurities in illicit heroin
by E. Bertol, F. Mari and M. Grazia Di Milia (Florence, Italy) (Received December 19th, 1988) 384

High-performance liquid chromatographic analysis of naturally occurring glycosides and saponins
by T. Okuyama, M. Takata, K. Takahashi, T. Ishikawa, K. Miyasaka and N. Kaneyama (Tokyo, Japan) (Received December 6th, 1988) 390

The use of new chromatographic techniques for the isolation and purification of phenolic acids from *Indigofera heterantha*
by A. Hasan (Islamabad, Pakistan), P. Waterman (Glasgow, U.K.) and N. Iftikhar (Islamabad, Pakistan) (Received December 8th, 1988) 399

Chromatographic methods for the determination of monomer, dimer and trimer fractions in dimer fatty acids
by T. Chandrasekhara Rao, V. Kale, P. Vijayalakshmi, A. Gangadhar, R. Subbarao and G. Lakshminarayana (Hyderabad, India) (Received December 8th, 1988) 403

Resolution of neuroexcitatory non-protein amino acid enantiomers by high-performance liquid chromatography utilising pre-column derivatisation with *o*-phthaldialdehyde chiral thiols. Application of *ω*-N-oxalyl diamino acids
by M. R. Euerby, P. B. Nunn and L. Z. Partridge (London, U.K.) (Received January 9th, 1989) 407

Enantiomeric purity determination of 3-aminoquinuclidine by diastereomeric derivatization and high-performance liquid chromatographic separation
by J. Demian and D. F. Gripshover (Richmond, VA, U.S.A.) (Received January 11th, 1989) 415

Determination of 2-acetyl-4(5)-tetrahydroxybutylimidazole in beers by high-performance liquid chromatography with confirmation by chemical derivatization
by J. F. Lawrence and C. Ménard (Ottawa, Canada) (Received December 29th, 1988) . . 421

Capillary gas chromatography of *Delphinium* diterpenoid alkaloids
by G. D. Manners (Albany, CA, U.S.A.) and M. H. Ralphs (Logan, UT, U.S.A.) (Received December 19th, 1988) 427

Determination of 4-*tert.*-butylphenol and 4-*tert.*-butylcatechol is cosmetic products by reversed-phase high-performance liquid chromatography
by L. Gagliardi, A. Cimorelli, G. Cavazzutti and L. Montanarella (Rome, Italy) and D. Tonelli (Bologna, Italy) (Received December 12th, 1988) 433

Separation of simple guanidines on cation-exchange columns using indirect ultraviolet detection
by T. A. Walker (Mt. Prospect, IL, U.S.A.) (Received December 28th, 1988) 438

Determination of 2,6- and 4,6-dinitrocresols by high-performance liquid chromatography on a β-cyclodextrin bonded column
by A. M. Tripathi, J. G. Mhalas and N. V. Rama Rao (Maharashtra, India) (Received December 21st, 1988) 442

Letter to the Editor

Chromatographic determination of cholesteryl esters synthesized *in vitro*
by D. Rejšková and J. Hradec (Prague, Czechoslovakia) (Received December 27th, 1988) 446

Author Index 449

In articles with more than one author, the name of the author to whom correspondence should be addressed is indicated in the article heading by a 6-pointed asterisk (*)